Psychological and Physiological Outcomes of Benevolent Childhood Experiences: A Scoping Review

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Abstract. Research in benevolent childhood experiences or positive childhood experiences has gain much attention to buffer the detrimental effects of childhood adverisities. The current scoping review aims to present the current state of knowledge on the impacts of benevolent childhood experiences towards psychological and physiological outcomes in adolescents and adults. Articles retrieved from Scopus, PubMed, Proquest, and ScienceDirect published from 2010- 2024 were systematically identified based on PRISMA Guidelines. Five hundred and twenty articles were retrieved and eleven full-text articles were analyzed. Benevolent childhood experiences or positive childhood experiences were predictive of ideal cardiovascular health at midlife and on cognitive functions. This interrelation could be explained paralleled with the effects of benevolent childhood experiences towards psychological outcomes that has the potential to foster a sense of control, resilience and self- efficacy. There are numerous positive psychological and physiological outcomes of benevolent childhood experiences in adolescents and adults.

Keywords: benevolent childhood experiences, emotions, mental health, physiological health

1 Introduction

There has been a wealth of studies exploring the detrimental and long-term effects of adverse childhood experiences towards psychological and physical health across the developmental spectrum [1, 2, 3, 4]. Adverse childhood experiences refer to traumatic events accuring before the age of 18 years that consist of psychological, physical, and sexual abuse, violence between parents or caregiver, and various family dysfunction conditions [5, 6]. A systematic review and

meta-analysis study that have pooled 11621 articles identified impacts of multiple adverse childhood experiences (ACEs) have shown that ACEs are a major risk factor for many health conditions such as, obesity, diabetes, heart disease, mental illness and substance abuse in adults [7]. Experiencing childhood maltreatment was significantly associated with the onset of cancer in adulthood especially for women, even when age and socio-demographic characteristics were controlled [8]. Studies also support that psychological abuse and psychological neglect were strongly associated with psychopathology [9], especially depression [10], anxiety [11], post-traumatic stress disorder [12], and suicidal ideation [13, 14].

Contrast to the studies that have supported ACEs negative impact, there has been a paradigm shift of research focusing on implementing a positive approach on understanding childhood experiences. Studies have suggested to consider positive childhood experiences (PCE) or benevolent childhood experiences (BCE) as a promotive and protective factor against negative impacts of ACEs [15, 16]. Benevolent childhood experiences defined as favorable experiences that includes recollections of positive relationships with family and larger community member, also positive internal self concept that occurs between birth to age 18 [16].

Evidence supports that BCEs are buffers against harmful impacts of ACEs. Research have found that benevolent childhood experiences are protective factors of health in adulthood through incorporating positive behavior sucha as, greater fruit and vegetable eating, better cognitive functioning, and nurturing interpersonal relationships [17]. (Crandall et al., 2019). Data derived from a 10-year longitudinal study incorporating adolescent between 10 and 13 years old have shown that counter-ACEs or benevolent childhood experiences help to neutralize the adverse effects of ACEs on young adult health through the influence of managing daily life stressors [18] (Crandall et al., 2020). A cross-sectional statewide sample of 6188 adults have reported that having more positive childhood experiences lowered the chance of depression through owning positive relationship that leads to healthy emotional support, protecting against mental health problems [19].

Based on the literature exploration, there has been a surge of research supporting BCEs as a promotive and protective factor against harmful effects of childhood trauma. As evidence compile, there is a need to understand the breadth and map out high quality evidence to support the topic. Furthermore, greater clarity is needed in regard to understand deeper about the pathways of impact between BCEs with psychological and physiological outcomes in adulthood. As to date, scoping review on the topic explored and summarized current evidence to measure benevolent childhood experiences [20]. There has not been found reviews that specifically addresses the mental and physical health of BCEs in adulthood. Therefore, this review aims to provide a synthesis of extant research on the impacts of BCEs towards psychological and phyisological outcomes in adulthood.

2 Methods

This study implements a scoping approach to explore exisiting literature on the psychological and physiological outcomes of benevolent childhood experiences. A scoping review is an ideal tool to identify and cover available emerging literatures or evidence on a given topic [21]. This scoping review follows the JBI Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-Scr) guidelines checklist [22]. Inclusion and Exclusion Criteria

Researchers in this study identified inclusion criterias, namely: (1) Assessed psychological or physiological outcomes of benevolent childhood experiences or positive childhood experiences occuring prior to age 18 in adolescence and adults; (2) Peer-reviewed empirical studies; (3) Published in English since 2010. Studies were excluded if they do not exclusively assess psychological or physiological outcomes of benevolent childhood experiences or positive childhood experiences (i.e., resilience, psychological well-being, emotion regulation, or positive adaptation). Studies from grey literature (thesis or dessertation) and secondary studies were excluded. Non-english peer-reviewed literatures and published before 2010 were also excluded.

Search Methods

There were four databases that was searched systematically such as, PubMed, Scopus, ProQuest, and ScienceDirect to identify relevant studies published from 2010 through June 2024. Boolean Operator that consists of keywords "benevolent childhood experiences" OR "positive childhood experiences" OR "positive early experiences" AND resilience OR well-being OR "mental health" OR "emotional health" OR "psychological health" NOT "adverse childhood experiences" were inserted in each databases. Studies that were retireved from each databases were then imported to Rayyan, a web-based software that enables collaborative platform to perform systematic and other literature review. One reviewer (FN) independently screened for titles and abstracts for the first round of screening. The full texts of all relevant potential articles were independently assessed by two reviewers (FN/DV) based on prior inclusion criteria. Differences of opinion throughout the selection process of articles were resolved by discusion with all reviewers.

Data Extraction

Full-text articles were retrieved from the search strategy on each databases. These articles were then extracted according to data extraction categories, specifically: study design, participants (sample size and characteristics), measurements, outcomes (psychological or physiological) and further areas of research. Figure 1. Presents the screening process that was conducted with PRISMA flowchart.

3 PRISMA

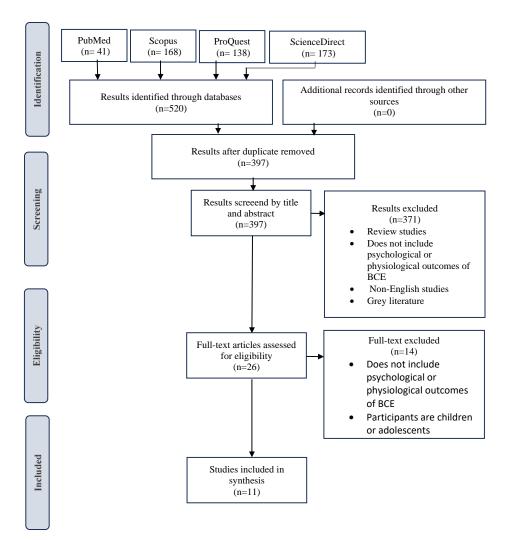


Figure 1. PRISMA Flowchart

4 Result

A total of 520 articles were retrieved from PubMed, Scopus, ProQuest, and ScienceDirect that have met inclusion criteria and evaluated based on title and abstract screening. There was 123 duplicates detected, leaving 397 articles screened based on title and abstract. There are 371

articles that were excluded due to secondary studies, did not have psychological or physiological outcomes of BCE, non-English articles and grey literature (books and thesis). Twenty-six articles were eligible for full-text review, with fourteen articles being excluded because it did not include preferred outcomes of studies and participants were identified prior age 18. A total of eleven full-text articles met inclusion criteria anad eligible for synthesis in this scoping review. All reviewers were notified with the screening process and agreed upon with 11 full-text articles included in this study. Detailed descriptions of the 11 full-text included for synthesis in this study are presented in Table 1.

Countries & publication dates

Eligible studies that have met inclusion criteria are dominantly conducted in the USA (n=5), China (n=3), and Canada, Turkey, and South Africa with one study for each country. Based on the countries of study, it can be said that BCE are studied in a diverse sociocultural and economic context due to including European, African, and Asian countries. As expected studies were mostly published within the past five years (2019 - 2024) with one study published in 2017 and another in 2011. However, the term "positive childhood experiences" was already used to explain similar concept.

Study Design

The majority of study design that has been reported in this review incorporate cross-sectional study (n= 8). Among the selected studies there are also longitudinal studies (n=2) and one experimental studies. Most studies were conducted with the general samples (n=6). Five studies took place in college or university settings with college students as their participants (n=5). Three studies used data collected from larger population survey, such as The Midlife and Aging Study and The National Social, Life, Health, and Aging Project Wave 3, both conducted in USA. One study used data collected from a crowdsourcing marketplace.

Sample characteristics

Participants were adults ranging from young adults until late adults (18-84 years). Most participants were university students (n=5), one study incorporate pregnant women in their perinatal periode, another one study only included mothers. Other included participants were from the general community. Interestingly there was one study that included participants from rural area to investigate the impact of positive childhood experiences towards positive adult civic involvement.

Measures

There were varieties of measures that were used in the selected studies. BCE were mostly measured using the Benevolent Childhood Experiences Scale (BCEs) (Narayan et al., 2018). Other psychological measures that were used such as, Perceived Stress Scale, Childhood Trauma Questionnaire-Short Form, Edinburgh Postnatal Depression Scale, The Center for Epidemiological Studies Depression Scale (CES-D), Montgomery Asberg Depression Rating Scale, Learning Executive and Attetion Functioning (LEAF), Eysenck Personality Inventory,

Behavioral Risk Factor Surveillance System Survey, Multi-Dimensional Scale of Perceived Social Support (MSPSS), Regulatory Emotional Self-Efficacy Scale, Positive Childhood Experiences Index, and Chinese version of Zung Self-Rating Depression Scale. Physical outcome measures used self-report health, such as self-rated physical health and self-report cardiovascular health.

Psychological Outcomes

Psychological outcomes from eligible studies dominantly portrayed emotional aspect in adult participants, such as stress [23, 24], depression [25, 26, 27], and both anxiety-depression [28, 29]. One study focused on the role of temperaments, especially introversion and extroversion and the interrelation with BCE [30]. (Miller et al., 2020). Another study focuses on how childhood family social environment with socioeconimic status effects cognitive functioning in later adulthood [31]. Interestingly, BCE increases possibilities that young adults would engage in positive adult functioning such as civic involvement, productivity, responsibility, positive interpersonal connections and physical activities [32].

Physiological Outcomes

Surpringsingly studies that focuses on physiological outcome in this review was still scarce. There was just only one study identified that examine how BCE was related to healthy cardiovascular health in middle until late adulthood [33]. Interestingly the study conducted also found that education mediates the direct effects of BCE and ideal cardiovascular health [33].

 Table 1. Results of data extraction

No	Author and country	Aims of study	Study design	Study sample	Measurements	Outcomes of BCE	Further Research
1.	[31], Canada	Investigate to which extent that childhood family social environment, coupled with childhood socioeconomic status (SES) and health, contribute to healthy cognitive function in later lifer.	Cross-sectional	3361 older adult participants (57-85 years) from the National Social Life, Health, and Aging Project Wave 3 Data	Montreal Cognitive Assessment (MoCA); National Social Life, Health, and Aging Project (NSHAP) for childhood measures; Cohen's 4-item Perceived Stress Scale; Self- rated physical health	Respondents growing up in a positive family atmosphere significantly had higher cognitive functioning. It also has the potential to foster a sense of control and resilience.	Testing causal pathways which benevolent childhood experiences impact the declining of cognitive functions in adulthood.

2.	[25], USA	Examining women's childhood experiences in relation to depressive symtpoms across the antepartum periode.	Longitudinal study	208 pregnant women (20-45 years) in their perinatal period	Childhood Trauma Questionnaire- Short Form (CTQ-SF); Benevolent Childhood Exeperiences Scale; Edinburgh Postnatal Depression Scale (EPDS); The Center for Epidemiological Studies Depression Scale (CES-D)	BCE were associated with lower depressive symptoms across peripartum period. BCE experiences act as a protective factor for postpartum depressive symtpoms throughout the the entire peripartum period. The more BCE and less depressive symptoms extends from antepartum to postpartum period. Positive experiences in childhood acts as a resource regarding support that women have following childhirth.	Examining associations in population-representative samples with high-risk of PPD in pregnant women (having elevated exposure to childhood maltreatment and other forms of childhood adversity). Using greater samples for item=level analyses to clarify which specific interpersonal relationships and early experiences have the most enduring effect on women's wellbeing in the peripartum period.

3.	[30], US	Examining how temperament moderate the relationship between positive and negative childhood experiences towards adult health.	Cross-sectional with regression analyses	246 adults (19-57 years) recruited from Amazon Mechanical Turk (mTurk).	Montgomery Asberg Depression Rating Scale; Perceived Stress Scale; Learning Executive, and Attention Functioning (LEAF); 12-item extroversion subscale from Eysenck Personality Inventory; Behavioral Risk Factor Surveillance Sytem Survey	Adult participants who had extroverted tendencies are more reactive both to adverse and advantageous childhood experiences compared to introverted participants. Extroverted participants tend to have a high tolerance of sympathetic nervous response and decrease of parasympathetic nervous system. Thus extroverted people	Examine the relationship between childhood experiences, temperament and across life-span of adult health with more samples. Furthermore, examine the physiological differences of participants in addition to examining ACEs, positive childhood experiences, temperament and health.
4.	[24], China	Examining the relationship between benevolent childhood experiences and uncertainty stress among Chinese university students.	Cross- sectional; Network analysis	1830 university students in three Chinese cities (Xuzhou, Nanjing, and Wuhan).	Perceived Stress Questionnaire; Benevolent Childhood Experiences scale;	It has been found that having BCE, especially having a positive self-concept, can buffer feelings of worry about the future	Implementing network analysis approach to identify items of the scale that shoud be given more weight and determining relevant clinical interventions.

5.	[27], China	Examine whether PCE predict a decrease depression level among college students	Cross-sectional online survey.	407 college music students in China	Benevolent Childhood Experiences Scale; Multi- Dimensional Scale of Perceived Social Support (MSPSS); Regulatory Emotional Self- Efficacy Scale; Chinese version of Zung Self-Rating Depression Scale.	Positive childhood experiences have negative predictive effect on students depression partially mediated by self-efficacy skills, specifically regulatory emotional self-efficacy. Furthermore, PCE enables students gain strong social support, thereby lessen the determintal effects of adversity.	Include other interpersonal and intrpersonal factors, such as self-esteem and interpersonal quality, to gain a deeper understanding between PCE and depression.

6.	[33], USA	Examining pathways of positive childhood experiences and ideal cardiovascular health.	Longitudinal	1255 participants (34- 84 years) from The Midlife and Aging study in the United States	Positive Childhoo Experiences Index; Self-report of cardiovascular health	Positive childhood experiences were associated with ideal cardiovascular condition in midlife. Education is a major factor compared to major depression and social support that fully mediate the direct effect of positive childhood experiences on cardiovascular health. Social environment has a strong association with ideal cardiovascular health in midlife, whilst having a positive childhood experiences enhances this association in adulthood.	Conduct a longitudinal study with repeated measures of childhood social environment and cardiovascular metrics to identify sensitive periods for the effects of exposures and vulnerability for each health metric. Furthermore, implement dynamic mediation models to explore time-variant nature of psychological mediators across the life course.

7.	[32], (2010)	Examine the interrelationship of positive childhood experiences as predictors of positive adult functioning and examine adolescent substance use as a mediator of prosocial continuity.	Cross-sectional study	429 participants (11-22 years) from rural area of The United States	Self-report of civic involvement, productivity and responsibility, interpersonal connection, physical exercise, and adolescent substance use	Positive childhood experiences consistently predicted positive adult functioning in areas of civic involvement, productivity and responsibility, interpersonal connection, and physical exercise. Interestingly, positive childhood experiences have enduring positive effects into early adulthood even in the presence of potentioally substance use in adolescence.	Further development of measures of positive development and prosocial outcomes.

8.	[23], USA	Examine protective effects of positive childhood memories with caregivers tworads lifespan and implications of intergenerational transmission of trauma from mothers to their offsprings.	Experimental study	185 mothers (17-46 years) from The United States	Angels in the Nursery Interview; Life Stressors Checklist-Revised; Davidson Trauma Scale; Beck Depression Inventory, Second Edition; Trauma Events Screening Inventory-Parent Form, Revised; Parental distress subsacle of the 36-item Parenting Stress Index, Short Form, Version 3.	Mothers having more positive and elaborated memories of positive childhood experiences have less levels of PTSD symptoms even after accounting higher levels of childhood maltreament memories. Angel memories are a protective factor from trauma-related psychopathology in adulthood, thus protecting offspring from being exposed to traumatic events. Mothers having less positive and elaborated positive childh memories is a risk factor for	Examine associations between mothers' angel memories and other distal and proximal factors, such as levels of positive early cargiving that may be associated with angel memories, including adult attachment representations, reflective functioning or presence of unresolved trauma.

the likelihood of trauma exposure onto their offspring.

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9.	[26], South Africa	Examine the protective factor benevolent childhood experiences against depression in emerging adult from South Africa	Cross-sectional study	313 young adults (18- 26 years) from South Africa	Benevolent Childhood Expereinces Scale; Life events questionnaire	Higher levels of BCE did not significantly predict depression level.	Future research should take into consideration how BCE might shape cultural and social identity that can impact mental health outcomes.
10.	[29], China	Explore the relationship between benevolent childhood experiences, uncertainty of stress and depressive symptoms amongst Chinese college students	cross-sectional study	1,821 Chinese college students	Benevolent Childhood Experiences Scale; Uncertainty Questionnaire; self-reported relationship in family and damily atmosphere; Center for Epidemiologic Studies Depression (CESD-10)	Benevolent childhoood experiences has negatively associated with uncertain stress which buffers the effects of depressive sypmtoms.	Consider sociocultural factors (school-related factors and social support) that influences depressive symptoms.

11.	[28], Turkey	Explore the relationsihp between poistive childhood experiences towards levels of depression and anxiety in young adults.	Cross-sectional study	3090 young adults (18-64 years) from Turkey	Beck Depression Inventory (BDI); Beck Anxiety Inventory (BAI); Positive Childhood Experiences Scale (PCEs)	Positive childhood experiences had a significant negative association with depression and anxiety levels among participants. Specifically positive childhood experiences like regular sharing meals with family, being free from chronic illness, having more than three siblings and abstaining from smoking can reduce the symptoms of anxiety and depression.	Conduct similar studies with adults from different countries in order to capture how positive childhood experiences have on different geographical context. Furthermore, combine online and face-to face data collection.
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5 Discussion

This scoping review aims to identify existing literature to examine the psychological and physiological outcomes of benevolent childhood experiences (BCE) among adolescences and adults. A total of 520 articles retrieved from four databases. Through the screening process of titles, abstracts, and full-text articles, there have been identified 11 articles that met the inclusion criteria for further synthesis. Psychological outcomes that were identified largely focused on examining the impacts of BCE towards emotional aspect in adulthood, specifically stress, anxiety, and depression. There are other focus of psychological outcomes of BCE such as temperament and cognitive functioning. Alternatively, physiological outcomes of BCE was still limited to only one article identified that met the inclusion criteria.

Psychological Outcome

The majority of studies confirms that BCE is a protective factor against the development of mental health problems such as depression, stress (uncertainty stress) and anxiety. Pregnant mothers that recall more positive experiences during their childhood would have a decrease possibility on developing depressive symptoms across the peripartum periode [26]. Similar results from [19] also confirms BCE is a protective factor against the development of PTSD symptoms on mothers even after taken account of their childhood maltreatment memories. Furthermore, mothers having more elaborated positive childhood experiences would decrease the chance of passing on their trauma onto their offsprings [19]. An explanation that could elucidate understanding between benevolent childhood experiences as a protective factor against emotional disturbances is that having more positive experiences during childhood is capable to enhance a positive self-concept, resulting feelings of worry about the future [24].

Psychological pathways that could explain BCE as a protective factor is through understanding aspects of BCE. An important component of BCE concerns on the quality of interpersonal relationship, described as having a positive, safe, consistent and secure relationship, that could buffer against the detrimental effects of childhood trauma [16] (Narayan et al., 2018). Findings have revealed that mothers having a safe and secure interpersonal relationship during childhood most likely will be sustained throughout adulthood that may serve as an added support during postpartum periode [25, 34]. Similar findings supported the argument that students owning higher levels of social support could activate BCE memories, thus enhancing a healthy emotion regulation skills to cope effectively in challenging situations during the pandemic [27].

Results from selected articles supported that benevolent childhood experiences mediates on increasing positive psychological aspects. Children that grew up in a warm and nurturing family environment has a high possibility to sustain a positive level of cognitive functioning in later life [31]. (Lee & Schafer, 2021). Positive and strong family cohesion provides children and adolescent a sense of support, hope and encouragement, that contributes to cultivating resilience

during young adulthood despite having complex trauma [35, 36]. Through this pathway, negative effects of adverse experiences during childhood could be buffered resulting in a sustained healthy cognitive functioning. Apart from cognitive functioning, results supported that benevolent childhood experiences enables young adults on adapting self-efficacy and positive emotion regulation skills. College students having higher levels of benevolent childhood experiences contributed on fostering a sense of self-efficacy that promotes their mental wellbeing, protecting from symptoms of depression during the pandemic [27, 28]. Further supporting results describes that adults having beneovlent childhood experiences are more resilient towards a condition called uncertainty stress, which enables to buffer against depressive symptoms and cultivating a positive emotion regulation skills [29]. This linkage can be explained through coping resource theory. Coping resource theory stated that individuals manage, minimize and master the demands of daily stressors through activating their intrapsychic (effective emotion regulation skills, self-efficacy, resilience etc.) or social resources [37]. Growing up in a nurturing and supportive environment enables adults on gaining social resources and access psychosocial resources, thus increases the likelihood on adapting a healthier way to manage daily stressors, reducing the risk of uncertainty stress [29, 38].

Results also have found that psychological aspects also influence individuals' receptivity of childhood experiences. Miller et al. highlighted that there are differences between extroverted and introverted adults reacting towards adverse and advantageous childhood experiences [30]. Extroverted adults tend to be more reactive against adverse and advantageous childhood experiences compared to introverted adults [30]. Extroverted adults have a heightened level of sympathetic nervous response resulting them to be more receptive from surrounding stimuli in their environment [30, 39].

Physiological Outcomes

Physiological outcomes of benevolent childhood experiences that is identified through the systematic search in this study is still limited. However, benevolent childhood experiences influence the increasement of positive physiogical outcomes. Amongst 1147 adults in midlife, those having more positive childhood experiences had higher ideal cardiovascular health [33]. Adults education, social support, and depressive symptoms were mediators between benevolent childhood experiences and cardiovascular health [33]. Findings have supported this findings, it has been confirmed that having a secure and strong social support facilitates the cognitive reappraisals of stress, resulting a lower cardiovascular reactivity towards stressful situations [40]

6 Conclusion

There are wealth of research supporting the role of benevolent childhood experiences towards positive psychological and physiological outcomes in adulthood. Benevolent childhood experiences acts as a mediator that enhances individuals psychological and social resources on facing stressful conditions. When facing adversities, adults having more positive childhood experiences is more capable on activating an adaptive emotion regulation skills, self-efficacy, positive self-concept, thus more resilient on confronting challenges. Temperaments also influence individuals receptivity towards environment stimuli. Alternatively, benevolent childhood experiences support cardiovascular health through the role of cognitive reappraisals towards stress. Recommendations for future empirical research posits causal pathways which benevolent childhood experiences impact physiological and psychological condition. Alongside to take into account a larger more inclusive sample, considering high-risk samples, sociocultural factors and how benevolent childhood experiences have on different geographical context. Implementing longitudinal studies aside from cross-sectional studies with repeated measures of childhood social environment and physical metrics to identify sensitive periodes for each health metrics. It is also recommended to explore more on the interrelationship of physiological outcomes exlcusive of physical illness, but taking account on understanding how benevolent childhood experience could enhance physical health. This study adds to the evolving evidence that benevolent childhood experiences have significant effect towards psychological and physical outcomes across the developmental spectrum.

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